

The Built Cultural Heritage in the Middle East and North Africa in Times of War and Conflict. The Use of Preventive Digitization

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The Built Cultural Heritage in the Middle East and North Africa in Times of War and Conflict. The Use of Preventive Digitization

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Abstract:

The built cultural heritage during its existence is exposed to many external threats (destruction, alterations, vandalism ..) and internal (war, conflict, degradation, insalubrities).

The first part of the presentation deals with the system of collective ownership (**Habbous and Waqf** property) which includes legal tools for conservations and management of land and public and private buildings. This system was created as a solution for the built cultural heritage to become invulnerable and protected from the external attack and hence assure the stability of family and society as well as the harmonious relationship with the universe.

The probleme

The second part of the talk deals with the spatial strategy that consist in destroying the cultural identity and built cultural heritage in time of war and conflict in the middle east and North Africa. The main recent examples are the Palmyra, the world heritage site and ancient city in the Syrian desert that has been destroyed as well as the Umayyad Mosque of the old City of Aleppo, Syria, whose minaret has been destroyed during heavy fighting during the Syrian War.

The solution

The third part of the talk will focus on the Algerian experience of preventive digitization and the digital restoration of built cultural heritage that was created following the destruction of the fountain of Ain El Fouara, Setif,

1.The fact that the cultural heritage is in danger

In the Middle East and In North Africa

Heritage built during its existence is exposed to many external threats (destruction, alterations, vandalism ...) and internal (war, conflict, degradation, insalubrities ...). This non-renewable and invaluable resource must be the subject of serious documentation and archiving. Digitization is currently a technology that has become essential for increased visibility and protection of the built heritage footprint.



The Old Bridge stood for 427 years, until it was destroyed on 9 November 1993 by Croat forces during the Croat–Bosniak War. Subsequently, a project was set in motion to reconstruct it, and the rebuilt bridge opened on 23 July 2004.



Aleppo Umayyad mosque during the Syrian war

Legal Tools for the Conservation of built cultural heritage in the Islamic Tradition

Traditional system of collective ownership of cultural heritage The system of collective ownership of real estate in the Islamic cultural tradition has been created as a system of refuge between the 14th century and the 18th century. This period was a time of turmoil and uncertainty in the Islamic world. The protection of real estate by giving to it a sacred and religious dimension was a way of avoiding the alienation. The system of collective ownership which includes legal tools for conservations and management of land and public and private buildings, was created as a solution to become invulnerable from the external attack and hence assure the stability of family and society as well as the harmonious relationship with the universe. The social and ideological correlates of the traditional legal tools for conservation and management of cultural heritage is a part of the traditional ideology which makes buildings participate in the cultic worship and ritual performances.

2.The Islamic traditional tools for conservation of cultural heritage. Habbous and Wafq

Traditional system of collective ownership of cultural heritage The system of collective ownership of real estate in the Islamic cultural tradition has been created as a system of refuge between the 14th century and the 18th century. This period was a time of turmoil and uncertainty in the Islamic world. The protection of real estate by giving to it a sacred and

religious dimension was a way of avoiding the alienation. The system of collective ownership which includes legal tools for conservations and management of land and public and private buildings, was created as a solution to become invulnerable from the external attack and hence assure the stability of family and society as well as the harmonious relationship with the universe. The social and ideological correlates of the traditional legal tools for conservation and management of cultural heritage is a part of the traditional ideology which makes buildings participate in the cultic worship and ritual performances. Performances of ritual are distinct phases in the social process, whereby groups adjust to internal changes and adapt to their external environment. The city as a cultural heritage in the Islamic cultural tradition revealed that the physical structures embody a realm of social values which clearly reflects the traditional ideology and cosmology. These cultural heritages are expression of conceptual structures dealing with themes such as theology, life and death, rebirth of the soul, politics and religion and how the social universe is constituted. B. The System of collective ownership in the Islamic cultural tradition : HABBIOUS Habbous is a term that literally means to 'Freeze' Waqf is a term that literally means to 'Stop' The Habbous Private The Habbous property is decreed as such, when a man testify in presence of the notary public (the kadi) that his real estate (that includes land and buildings) will be habbous and will belong to his descendants. The Habbous foundation act is based on some rules for the management of the property: - When a property is made habbous that means that the property becomes inalienable (in relation with the word 'freeze'), in other words it cannot be sold , cannot be an object of transaction and cannot be transferable by any means, for the descendants. - The descendant can use and enjoy the property but cannot sell the property Habbous. The use of it is made by different categories of descendant. For example when a man before dying calls a notary public and decide that his real estate as Property habbous (private) which is called Tabek: that means all descendants can enjoy and use the property: the ratio for man is 2/3 and for woman 1/3. but sometimes the woman is excluded from the use of the real estate: when it is the case it is called the HIRMAN. The Habbous Public: In this category we can find a foundation that takes care of public buildings such as: - Zaouia (The coranic school for children within a tomb of a saint) - Medersa (the school for youngster) - Hospital - The founder appoints a men as a manager that is called ElMokadem who will be paid from the outcome of these buildings. These building at the beginning were private(they belonged to an individual person) and then get transformed into a public status through the foundation HABBIOUS: El mokadem the appointed manager will direct the income of these buildings to a public interest. In the country side the real estate that belongs to the tribe is called the 'Arch' which means tribe. In 1935, the law states that for the 'Arch' real estate there is a joy of it but there is no ownership. The managing of such real estate is defined in four points: a. Ownership within the indivisibility: The tribe has all the real estate the rights on the land. b. The tribe has the board of administration and have the management without the state administrative custody. This system of property is based on the canonical transmission of the joy of property from father to son. The woman is recycled through the preferential cross cousin marriage . This patriarchal system reinforces the group cohesion without

3.Sixteenth century know how of restoration in the

Islamic world: the manuscript of Kotb el Din

In this section of the presentation I will introduce the know how text of restoration from the sixteenth century Arabic manuscript of KOTb El Din.

Qotb El Dîn's* a member of the sixteenth century Islamic literati who wrote the book entitled <IRLAM BE ARLAM BALAD ALLAH ELHARAM.>, 'Indication or information (IRLAM) on the personages or landmarks (ARLAM) on the God's Sacred Territories' the title means that the subject deals with all the chronicles that dealt with the city of MECCA including the Kaaba, the sacred mosque that surrounds it and to a certain extend the city of Djedda and Madina . This work dealt mainly with the city of Mecca and has a great deal of information on its developmental process through time. The chronicles of Qotb el Din includes the

geographical location of Mecca, its construction, its conservation, its renovation, its hydraulic system, its reconstruction after a fire or flooding disaster including the judicial process that is required before these actions .

PRESENTATION OF THE MANUSCRIPT

Title of the Manuscript: Irlam Be Arlam Bald Allah El Haram

Authors Name: Qotb el Din ben Alla Din Ahmed Ben Mohamed Ben Qadi Khan Ben

Baha el Din Ben Yacoub El Hanfi El Kadiri el Khalkani An
Nahraouali.

Date of Death: 1580BC/988H

Date of writing: 1577 BC / 985H

Name of copist: Unknown

Date of writing of the copy: May 25th, 1577, 07 Rabii ElAoual 985H

Nature of the manuscript: Historical

Morphological Description:

A) Dimension

Length : 23

Wide : 16

B) Volume: 1

C) Number of pages: 410

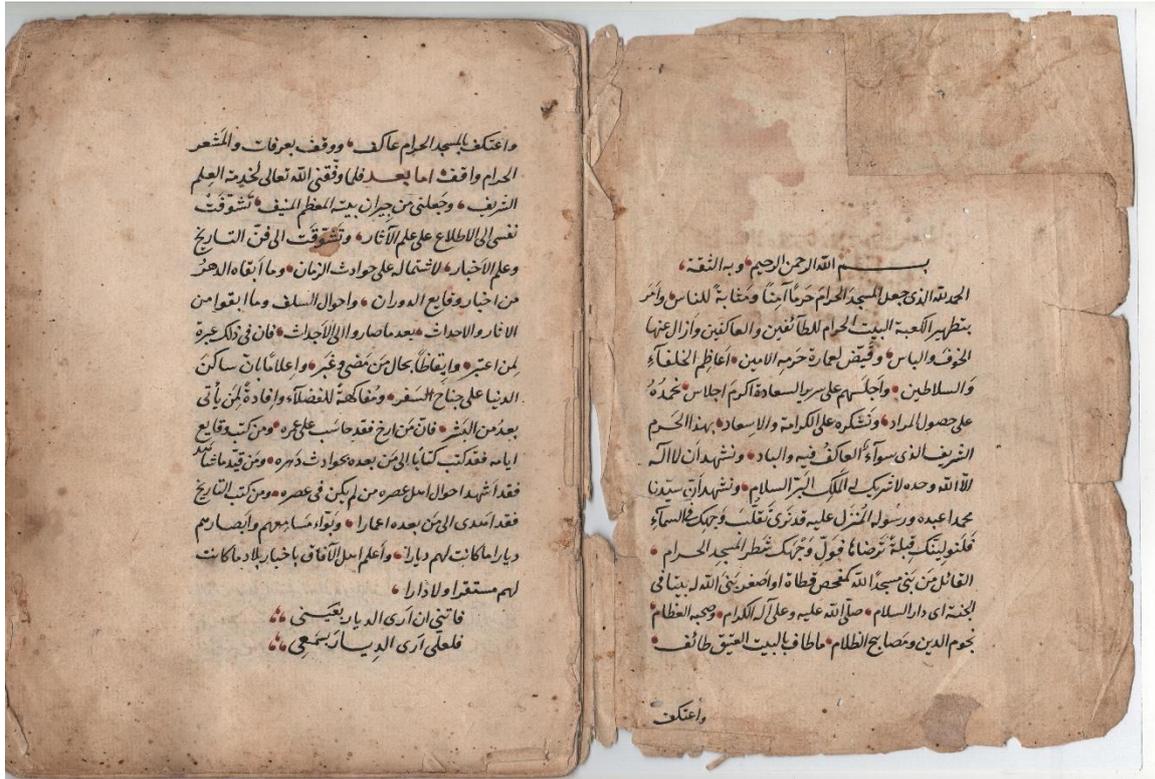
D) Number of lines in a pages: 17

Quality of paper:

Color of the ink: black for text, red for titles of chapters and important names

Calligraphy: the third ottoman scripture

Introductory Chapter: El Khitab and Fasl El Khitab



Source: the author

Introductory chapter of The 16th century Arabic manuscript of Qotb el Din

The science of traces. The science of conservancy and the inquiries of traces(M.Arkoun)

بسم الله الرحمن الرحيم

أما بعد فلما وفقني الله تعالى لخدمة العلم... الحمد لله الذي جعل المسجد الحرام حرماً آمناً ومثابة للناس، الشريف، وجعلني من جيران بيته المعظم المنيف، تشوقت نفسي إلى الاطلاع على علم الآثار، وتشوقت إلى فن التاريخ و علم الأخبار لاشتماله على حوادث الزمان وما أبقاه الدهر من أخبار وقائع الدوران، و أحوال السلف و ما ابقوا من الآثار و الأحداث بعد ما صاروا إلى الاحداث، فان في ذلك عبرة لمن اعتبر و إيقاظا بحال من مضى و غير، و إعلاما بان ساكن الدنيا على جناح السفر، و مفاكهة للفضلاء و إفادة لمن يأتي بعد من البشر فان من أرخ فقد حاسب على عمره، و من كتب وقائع أيامه فقد كتب كتابا إلى من بعده بحدوث دهره، و من قيد ما شاهد فقد شهد أحوال أهل عصره من لم يكن في عصره، و من كتب التاريخ فقد أهدى إلى من بعده أعمارا، و بؤاً مسامعهم و أبصارهم ديارا ما كانت لهم ديارا، و اعلم أهل الآفاق بأخبار بلاد ما كانت لهم مستقرا و لا دارا.

فاتني أن أرى الديار بعيني،

فلعلي أرى الديار بسمعي ،

“In the Name of God the Merciful, the Compassionate, once god made me to serve the (most) noble science (Al Ilm = science, Lafred L Ivry, p.122; ilm= knowledge of: alfred l. ivry, al-kindī’s metaphysics, p.124), and made me one of the neighbors of his sacred house (the Qabbaa), I envision (to picture to oneself) to study the science (or acquiring full knowledge) of Traces, I crave (needing greatly) the need [to attain or obtain] the Art (Art stands for the art of discussing or treatises, A.L.Ivry,p.133) of History and the knowledge of Information (...)who writes about the events of his life constitutes a book of one’s contemporary events for those who [will] come after , (...) and honored their hearings and sights of houses which could never be their houses, (...)

In his introductory chapter Qotb el Din introduces his subject for which he showed a great interest , the study of Ilm el Athar, and Ilm El Akhbar the science of the conservancy and the enquiries of traces (Athar) and informations (El Akhbar) and the art of History, a whole set of knowledge about the city of Mecca, Djedda and some other places in Saudi Arabia. Arkoun wrote in regards of these topics, “The inquiries and conservation of information (Akhbar) and the traces (athar) and oral transmission that accompanied the texts and later will take a written form on recitations (Riwayat), of traditions (Hadiths,sunan) gave birth to a rich literature of historical essence”. He added that “ the study of these documents are crucial because they constitute our only link with the inaugurating age and the formative period of Islamic thought. Arkoun added that the study of these documents and manuscript should not be a study of the mythical past, but viewing it with a critical historical way. Further more, as far as knowledge is concerned the study of these subjects through Islamic manuscripts and treatises leads us to discover new vision and reinterpretation of knowledge at the light of the twenty first century conception of knowledge and our relationship with our encompassing world. The work of Qotb el Din encompasses a knowledge in a global sense of the term, the interrelatedness of the disciplines consists in his monism of science;

جمع ما بين لطائف تاريخية و احكام شرعية و مواظ نافعة و فوائد بارعة و
الاعلام بأعلام بلد الله الحرام سميته «

I collected in this book historical facts and judicial principles as well as useful topics with very beneficial information and I entitled it (this book): ALAM BE IRLAM BALAD ALLAH EL HARAM:

This book is characterized by the reconciliation of sciences which is based on the diversity of information such as, architectural, historical, judicial, religious, social, craft construction and so on... the knowledge of information (ilm el Akhbar) and the science of traces .



Technical text of the know how of the restoration of a column that was destruction in a fire in 1399(802 Hejri)

4.Preventive digitization

This last section of the presentation deals with the techniques using the laser scanner survey in the restoration of the statue of Fouara in Setif, Algeria. This statue which is made of marble was realized by Francis de St Vidal in 1899 that represents a nymph which is a part of the fountain, publicly displayed in the center of the city's main plaza. On 18 December 2018, a man defaced the statue, removing the facial features and breasts with a hammer and chisel.



*The statue of Fouara after the incident
(Face and breast affected)*

As a matter of fact, the built cultural heritage in Algeria is in danger from attacks and reaction time deterioration with age.

Following the day of the incident, our team has been called to use a previous scanner laser survey of the nymph that was stored in our cultural heritage monument database in order to help the restoration of the missing part of the nymph (the face and the breast. as matter of fact, the original laser scanning survey provided a helpful and accurate details to support the restoration of the nymph.

Cultural heritage and preservation

Heritage built during its existence is exposed to many external threats (destruction, alterations, vandalism ...) and internal (war, conflict, degradation, insalubrities ...). This non-renewable and invaluable resource must be the subject of serious documentation and archiving. Digitization is currently a technology that has become essential for increased visibility and protection of the built heritage footprint.

The LIDAR (light detection and ranging also called laser scan) object of this article is a technique of Lasergrammetry that allows the digitization of built cultural heritage (Raimondi, 2015a). It is a data acquisition process in point cloud aspect, then in the form of 3D modeling.

We used this technique for a reconstruction and an expertise of the model of the statue of the Fountain of Ain Fouara and thus show all the interest of this technology not only in the digital archiving of 3D models generated and the way that we use.

But also all the possibilities of use of these models in the study of the mechanical behaviors and studies of the construction of the patrimonial objects.

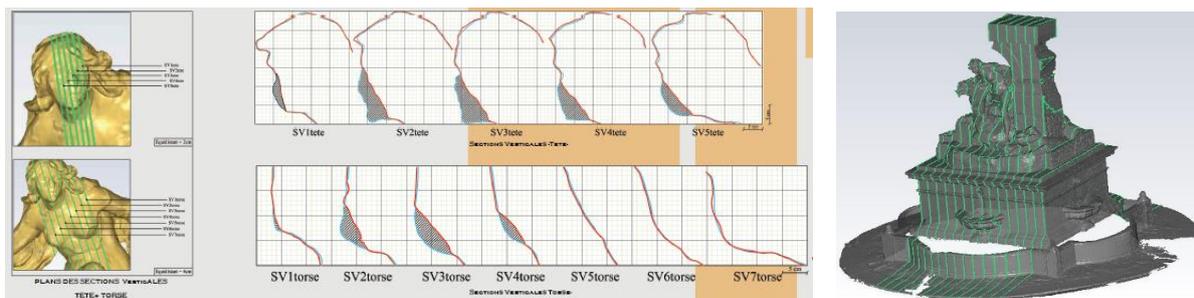
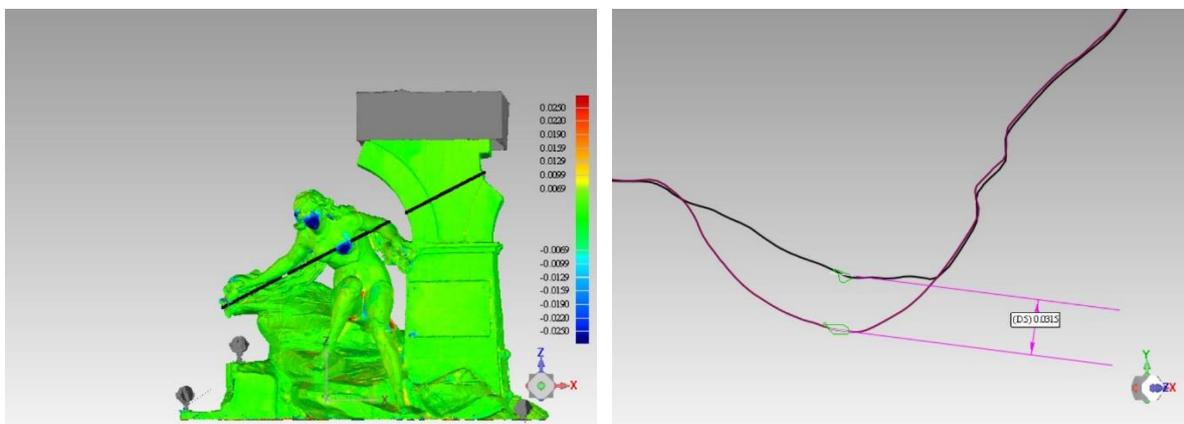
According to the new development of the technologies; the former way of operating the survey has been replaced by a digital process of modeling (Varady,1997a). However these new technologies has gave us architects an opportunity such as the automatic orientation as well as measuring process based on the new generation of 3D data on cloud points and it is applied to the digital modeling surfaces and the Web representation of the built cultural heritage.

5. The Digital restoration and structural analysis of the built cultural heritage

All these actions were used in the digital expertise on object that which undergo or undergoing deteriorations.

The workflow based on Laser Scanning in Cultural Heritage has three steps in order to initialize the digitalization work.

1. The first step is acquiring the 3M data by the use of the laser scanner 3M restitution of the surfaces of the object through many stations.
2. The second step is the 3D modelization through engineering software for the data processing of the cloud points of the object. This step is based on the transformation of the data and the 3D geometry restitution of the object.
3. The last step is the representation based on the process of digitalization to integrate the 3D Data and other multimedia such as text, image..., in order to visualize the specific use of the rendering of the model.



The comparison with color method between two point clouds (before and after the incident -the lost parts of the face and breast in blue-)

The laser scanning technology has been very helpful in getting a better restoration result and the authorities are appraising and appreciating the necessity to get a database of existing cultural heritage as the first step for conservation



Presentation of the preventive digitization for the protection of the built cultural heritage to the Minister of Higher Education and to Research officials



Public gathering at the Inauguration of the restored Statue

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